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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/929,165	08/14/2001	Hung-kun Chen	46914-2003	8970
24504	7590	11/26/2004	EXAMINER	
THOMAS, KAYDEN, HORSTEMEYER & RISLEY, LLP 100 GALLERIA PARKWAY, NW STE 1750 ATLANTA, GA 30339-5948			ZHENG, EVA Y	
		ART UNIT	PAPER NUMBER	
			2634	

DATE MAILED: 11/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/929,165	CHEN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Eva Yi Zheng	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 14 August 2001.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 1-21 and 29-33 is/are allowed.
- 6) Claim(s) 23-28 is/are rejected.
- 7) Claim(s) 22 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 22 and 28 are objected to because of the following informalities:  
recitation: "said frequency hopping spread spectrum communication system" should be changed to -- said frequency hopping spread spectrum system -- to avoid lack of antecedent basis under 35 U.S.C. 112, second paragraph.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:  

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 24-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
  - a) Claim 24 recites the limitation "said overlapped channels" and "said first quality assessing means". There is insufficient antecedent basis for this limitation in the claim.
  - b) Claim 25 recites the limitation "said first predetermined threshold". There is insufficient antecedent basis for this limitation in the claim.
  - c) Claim 26 recites the limitation "said quality assessing operator". There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 23 is rejected under 35 U.S.C. 102(b) as being anticipated by Sano (US 5,799,242).

Regarding claim 23, Sano discloses a channel quality assessing device utilizable in a communication system having a plurality of channels for receiving signal packet traffic utilizing a plurality of receiving signal, comprising:

channel grouping means (block 30 in Fig. 1) for grouping said plurality of channels into a plurality of groups, each of said plurality of groups having a plurality of channels, and

channel quality determining means (block 6 in Fig. 1; Col 6, L29-32) coupled to said channel grouping means for determining channel quality of each of said plurality of channels from detection results of each of said plurality of groups, further comprising;

a quality assessing calculator (block 10 in Fig. 1) responsive to said plurality of receiving signals for determining qualities of said plurality of channels and said plurality of groups containing said plurality of channels; whereby said quality assessing calculator determining a quality accessing value of a first selective group and output said quality assessing value (abstract); and

first quality determining means (block 20 in Fig. 1) for determining a quality assessing value of a selective channel being said qualified assessing value of said first selective group calculated from said quality assessing calculator (Col 6, L37-46).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sano (US 5,799,242).

Regarding claims 27 and 28, Sano discloses all the subject matters described above except for specific teaching of the communication system is a frequency hopping spread spectrum system and includes an adaptive frequency hopping system.

However, Sano's invention is directly related to a mobile communication control system and detection of a pseudo-error rate. It is well known that a frequency hopping is driven by a pseudo random sequence, and adaptive frequency hopping system is a type of frequency hopping for reducing interference between communication systems. Therefore, it is obvious to one of ordinary skill in art at the time of invention to employ frequency hopping in particular adaptive frequency hopping system in Sano's communication control unit. In doing so, reduce interference and multipath effect between communication systems, and provide fast signal detection and controls.

***Allowable Subject Matter***

8. Claims 1-21 and 29-33 are allowed.
9. Claim 22 would be allowable if rewritten to overcome the objections, set forth in this Office action.
10. The following is an examiner's statement of reasons for allowance:

None of the prior art teaches or suggests a channel quality system receiving a plurality of groups having a plurality of channels, a frequency synthesizer for proving a continuous sinusoidal frequency signal, a mixer having an input of an RF signal and the continuous sinusoidal frequency signal and outputting a signal packet, a channel interference detector for detecting interference response to received signal packet, and a grouping/channel quality assessment unit for grouping channels, wherein if a quality assessing value of a first selective group is not within a predetermined range, the first group is an unqualified group, if a second selective group is overlapped with unqualified group, a size of unqualified group is smaller than that selective group, then overlapping channels between unqualified group and second selective group are disabled in second selective group, the sized of second selective group being reduced by the number of overlapping channels.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eva Yi Zheng whose telephone number is (571) 272-3049. The examiner can normally be reached on 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571) 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-879-9306.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

**(703) 872-9314 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

November 22, 2004

Eva Yi Zheng  
Examiner  
Art Unit 2634



**SHUWANG LIU  
PRIMARY EXAMINER**